

**AUTHORITY TO CONSTRUCT / MODIFY  
ISSUED PURSUANT TO  
PREVENTION OF SIGNIFICANT DETERIORATION (PSD)  
REQUIREMENTS AT 40 CFR § 52.21**

**PSD PERMIT NUMBER: SJ-76-44-B  
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IX**

**PERMITTEE:** Guardian Industries Corporation (Guardian)

**FACILITY LOCATION:** 11535 Mountain View Ave. in Kingsburg, California.

This Permit is issued pursuant to the Prevention of Significant Deterioration (PSD) requirements of the Clean Air Act, as amended, 42 U.S.C. §§ 7401 - 7671, et seq. Guardian is granted approval to construct/modify the existing glass manufacturing plant near Kingsburg, California, as described herein, in accordance with the permit application (and plans submitted with the permit application), federal regulations governing the Prevention of Significant Deterioration of air quality (40 CFR § 52.21), and other terms and conditions set forth in this PSD Permit.

Failure to comply with any condition or term set forth in this PSD Permit is subject to enforcement action pursuant to Section 113 of the Clean Air Act.

This PSD Permit does not relieve the Permittee from the responsibility to comply with any other applicable provisions of the Clean Air Act (including 40 CFR Parts 51, 52, 60, 61, 63, and 72 through 75), other federal, or San Joaquin Valley Unified Air Pollution Control District (District) requirements.

This PSD Permit becomes effective at the date of issuance pursuant to 40 CFR § 124.15(b)(3).

Original signed by Matt Haber for  
Deborah Jordan  
Director, Air Division

May 26, 2006  
Date

## **PROJECT DESCRIPTION**

The applicant is proposing to rebuild the melting furnace and increase glass manufacturing capacity from 600 to 700 tons per day, and the furnace heat capacity from 182 to 212 MM Btu/hr. The rebuilt float glass manufacturing line consists of a melting furnace, a tin float bath, an annealing lehr, and a united McGill 3-500 modular electrostatic precipitator. The new furnace will be equipped with the following control devices: a high temperature (dry) scrubber, a new electrostatic precipitator and a selective catalytic reduction (SCR) system. The furnace exhaust will be equipped with a continuous emissions monitoring system (CEMS) to measure NO<sub>x</sub>, SO<sub>x</sub> and O<sub>2</sub> concentrations.

## **EQUIPMENT LIST**

Emission Unit 1 (E/U 01) = a float glass manufacturing line consisting of a 212 MM Btu/hr glass melting furnace (manufacturing capacity of 700 tons of glass per day), a tin float bath and annealing lehr. The furnace and annealing lehr exhaust gases are vented to Control Units 1, 2 and 3 in series.

Control Unit 1 (C/U 01) = high temperature (dry) scrubber

Control Unit 2 (C/U 02) = electrostatic precipitator

Control Unit 3 (C/U 03) = selective catalytic reduction (SCR) system

## **PERMIT CONDITIONS**

### **I. Permit Expiration**

As provided in 40 CFR 52.21(r), this PSD Permit shall become invalid if construction:

- A. is not commenced (as defined in 40 CFR 52.21(b)(9)) within 18 months after the approval takes effect; or
- B. is discontinued for a period of 18 months or more; or
- C. is not completed within a reasonable time.

### **II. Permit Notification Requirements**

Permittee shall notify EPA Region 9 in writing or by electronic mail of the:

- A. date construction is commenced, postmarked within 30 days of such date.
- B. actual date of initial startup, postmarked within 15 days of such date.

- C. date upon which initial performance tests will commence, in accordance with the provisions of Condition X.F.1., postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition X.F.2.
- D. date upon which initial performance evaluation of the CEMS will commence in accordance with 40 CFR 60.13(c), postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the CEMS performance test protocol required pursuant to Condition X.C.5.

### **III. Facilities Operation**

At all times, including periods of startup, shutdown and malfunction, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA which may include, but is not limited to, monitoring results, opacity observations, review of operating maintenance procedures and inspection of the source.

### **IV. Malfunction Reporting**

- A. Permittee shall notify EPA by facsimile, or electronic mail within two (2) working days following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above the allowable emission limits stated in Section X.D. of this permit.
- B. In addition, Permittee shall notify EPA in writing or electronic mail within fifteen (15) days of any such failure described under Condition IV.A. The notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section X.D., and the methods utilized to mitigate emissions and restore normal operations.
- C. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

### **V. Right to Entry**

The EPA Regional Administrator, and/or an authorized representative, upon the presentation of credentials, shall be permitted:

- A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this PSD Permit; and
- B. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit; and
- C. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and
- D. to sample materials and emissions from the source(s).

#### **VI. Transfer of Ownership**

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of this PSD Permit and its conditions by letter, a copy of which shall be forwarded to EPA Region 9.

#### **VII. Severability**

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

#### **VIII. Other Applicable Regulations**

Permittee shall construct and operate this project in compliance with this PSD permit and all other applicable federal, state, and local air quality regulations. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

#### **IX. Paperwork Reduction Act**

Any requirements established by this PSD Permit for the gathering and reporting of information are not subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act because this permit is not an "information collection request" within the meaning of 44 U.S.C. §§ 3502(4), 3502 (11), 3507, 3512, and 3518. Furthermore, this PSD Permit and any information gathering and reporting requirements established by this permit are exempt from OMB review under the Paperwork Reduction Act because it is directed to fewer than ten persons. 44 U.S.C. § 3502(4) and § 3502(11); 5 CFR § 1320.5(a).

## **X. Special Conditions**

### **A. Reserved**

### **B. Air Pollution Control Equipment and Operation**

1. Prior to startup of the rebuilt furnace, Permittee shall install, and thereafter continuously operate and maintain a high temperature (dry) scrubber (C/U1), electrostatic precipitator (C/U2), and selective catalytic reduction (SCR) system (C/U3) to control NO<sub>x</sub> and SO<sub>x</sub> emissions from E/U 01.
2. All flue gas emissions from the furnace shall be ducted to C/U1, C/U2, and C/U3, prior to exhausting into the atmosphere.
3. The aforementioned term "continuously operate" does not include periods of startup, shutdown and idling, as defined in Condition X.E. except as required by Condition X.E.7.
4. C/U1 shall be designed to meet a SO<sub>x</sub> emission limit of no more than 49.58 lb/hr, based on a block 24-hour average, for the life of the dry scrubber.
5. C/U2 shall be designed to meet a PM<sub>10</sub> emission limit of no more than 20.42 lb/hr, for the life of the electrostatic precipitator.
6. C/U3 shall be designed to meet a NO<sub>x</sub> emission limit of no more than 107.92 lb/hr, based on a block 24-hour average, for the life of the SCR catalyst.

### **C. Continuous Monitoring Systems**

1. Prior to startup of the rebuilt furnace, Permittee shall install, and thereafter operate, maintain, certify, and quality-assure a continuous emission monitoring system (CEMS) which measures stack gas NO<sub>x</sub>, SO<sub>x</sub> and O<sub>2</sub> concentrations in ppmv and stack gas volumetric flowrate.
2. The CEMS shall meet the applicable requirements of 40 CFR 60 Appendix B, Performance Specifications 2 and 3 and 40 CFR Part 60 Appendix F, Procedure 1.
3. The performance evaluation of the CEMS may be conducted as part of any performance test.
4. The CEMS shall complete a minimum of one cycle of operations (sampling, analyzing and data recording) for each successive 15-minute period. 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Each 1-hour period in a block 24-hour average shall commence on the hour. The block 24-hour average will be calculated starting and ending at twelve-midnight.
5. Permittee shall submit a CEMS performance test protocol to the EPA no later than 30 days prior to the test date to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted

in accordance with the submitted protocol, and any changes required by EPA. Permittee shall furnish the EPA a written report of the results of performance tests within 60 days of completion.

#### **D. Emission and Production Limits**

The following emission and production limits shall apply at all times, except as provided by the provisions of Condition X.E.

1. The glass production pull rate shall not exceed 700 tons per day.
2. NO<sub>x</sub> emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 107.92 lb/hr or 3.70 lb/ton of glass pulled, based on a block 24-hour average; or 3.25 lb/ton of glass pulled, based on a rolling 30-day average.
3. SO<sub>x</sub> emissions from the glass melting furnace, except during periods of start-up, shutdown, and idling, shall not exceed any of the following limits: 49.58 lb/hr or 1.7 lb/ton of glass pulled, based on a block 24-hour average; or 1.2 lb/ton of glass pulled, based on a rolling 30-day average.
4. PM<sub>10</sub> emissions from the glass melting furnace exhaust shall not exceed 20.42 lb/hr or 0.7 lb/ton of glass pulled.
5. CO emissions from the glass melting furnace exhaust shall not exceed 100 tons per year, based on a 12-month rolling average.

#### **E. Requirements during Startup, Shutdown and Idling Periods**

The emission limits in Section X.D. shall not apply during startup, shutdown and idling periods. During these periods, the following requirements shall apply:

1. The CEMS shall be in operation during each idling period.
2. While in an idling period, NO<sub>x</sub> exhaust emissions shall not exceed 6,440 lbs per day, based on a block 24-hour average.
3. The time, date and duration of each startup, shutdown and idling period shall be recorded. The records shall include lbs/hour emission calculations based on the CEMS data. These records shall be kept for five years following the date of such events.
4. Startup is defined as the period of time, after initial construction of the furnace rebuild, during which the glass melting furnace is heated to operating temperature by the primary furnace combustion system and instrumentation are brought to stabilization. The startup period shall not exceed 208 days, beginning from the time of primary combustion system activation.
5. Shutdown is defined as the period of time during which a glass melting furnace is purposely allowed to cool from operating temperature and molten glass is

removed from the tank for the purpose of a furnace rebuild.

6. Idling is defined as the operation of the furnace at less than 25 percent of the permitted production capacity or fuel use capacity as stated in this Permit.
7. Control Units 1, 2 and 3 (C/U1, C/U2 and C/U3) shall be in operation whenever technologically feasible during startup, idling and shutdown conditions.

#### **F. Performance Tests**

Within 60 days after achieving the maximum production rate the facility will operate at, but not later than 268 days after the initial startup of equipment, and annually thereafter (within 60 days of the initial performance test anniversary), Permittee shall conduct performance tests (as described in 40 CFR 60.8) for NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub> and CO emissions.

1. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
2. Performance tests shall be conducted in accordance with the following:
  - a. EPA Methods 1-4 and 7E if NO<sub>x</sub> emissions are measured in ppmv.
  - b. EPA Methods 1-4 and 19 if NO<sub>x</sub> emissions are measured on a heat input basis.
  - c. EPA Methods 1-4 and 8 or 6C for SO<sub>x</sub> emissions.
  - d. EPA Methods 1-4 201A and 202 for PM<sub>10</sub> emissions.
  - e. EPA Methods 1-4 and 10 for CO emissions.
  - f. the provisions of 40 CFR Part 60.8 (f).

In lieu of the specified test methods, equivalent methods may be used with prior written approval from EPA.

3. The initial performance test conducted after furnace startup shall use the test procedures for a 'high NO<sub>2</sub> emission site,' as specified in San Diego Test Method 100, to measure NO<sub>2</sub> emissions. The source shall be classified as either a 'low' or 'high' NO<sub>2</sub> emission site based on these test results. If the emission source is classified as a:
  - a. 'high NO<sub>2</sub> emission site,' then each subsequent performance test shall use the test procedures for a 'high NO<sub>2</sub> emission site,' as specified in San Diego Test Method 100.
  - b. (ii) 'low NO<sub>2</sub> emission site,' then the test procedures for a 'high NO<sub>2</sub> emission site,' as specified in San Diego Test Method 100, shall be performed once every five years to verify the source's classification as a 'low NO<sub>2</sub> emission site.'

4. For performance test purposes, sampling ports, platforms, and access shall be provided on the emission unit exhaust system in accordance with the requirements of 40 CFR 60.8(e).
5. Permittee shall furnish the EPA a written report of the results of performance tests within 60 days of completion.
6. All performance tests shall be conducted at a minimum glass production pull rate equivalent to 90% of the maximum glass production pull rate achieved during the last year.
7. Upon written request from the Permittee, and adequate justification, EPA may waive a specific annual test and/or allow for testing to be done at less than 90% of maximum glass production pull rate achieved during the last year.
8. The CEMS shall be tested annually and quarterly in accordance with the requirements of 40 CFR 60 Appendix F, Procedure 1.

#### **G. Recordkeeping and Reporting**

1. Permittee shall maintain CEMS records that contain the following: the occurrence and duration of any or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and emission measurements.
2. Permittee shall submit a written report of all excess emissions to EPA semi-annually. The report is due on the 30<sup>th</sup> day following the end of the calendar quarter and shall include the following:
  - a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
  - b. Applicable time and date of each period during which the CEMS was inoperative (monitor down time), except for zero and span checks, and the nature of system repairs or adjustments; and
  - c. A negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted.
3. Excess emissions shall be defined as any operating hour in which the block 24-hour average NO<sub>x</sub> or SO<sub>x</sub> concentration, as measured by the CEMS, exceeds the maximum hourly emission limits set forth in Condition X.D.
4. A period of monitor down time shall be any unit operating hour in which sufficient data are not obtained to validate the hour for NO<sub>x</sub>, SO<sub>x</sub> or O<sub>2</sub> emission rates.
5. Excess emissions indicated by the CEM system shall be considered violations of the applicable emission limit for the purpose of this permit.



6. All records required by this PSD Permit shall be retained for five years following the date of such measurements, maintenance, and reports.
7. Permittee shall maintain daily records of the total hours of operation and the quantity of glass pulled.
8. Permittee shall maintain daily records of the NO<sub>x</sub> and SO<sub>x</sub> emission rate in lb/ton of glass pulled.
9. Permittee shall establish parameters for primary and secondary voltage and current, which provides a reasonable assurance of ongoing compliance with emission limitations stated in this permit. The initial parameters shall be established using at least 6 months of historical operating data and manufacturer/supplier recommendations. These parameters shall be reviewed annually and revised if necessary based on PM10 source test result data, historical operating data and manufacturer/supplier recommendations.
10. During each day of operation, the Permittee shall record electrostatic precipitator voltage and current readings and compare the readings with the acceptable range of current and voltage levels established. Upon detecting any excursion from the acceptable range of current or voltage readings, the Permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable.

#### **H. New Source Performance Standards**

The proposed furnace rebuild is subject to the federal regulations entitled Standards of Performance for New Stationary Sources (40 CFR 60). The owner or operator shall meet all applicable requirements of 40 CFR 60 Subparts A and CC.

#### **I. Fuel Use**

1. Only PUC quality natural gas or LPG as a backup fuel shall be used to fire Emission Unit 01.
2. Permittee shall keep daily records of the type and quantity of fuel used.

#### **XI. Agency Notifications**

All correspondence as required by this Authority to Construct shall be sent to:

- A. Director, Air Division (Attn: Air-5)  
EPA Region IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Email: [R9.AEO@epa.gov](mailto:R9.AEO@epa.gov)  
Fax: (415) 947-3579

- B. Air Pollution Control Officer  
San Joaquin Valley Unified APCD  
1990 East Gettysburg Ave  
Fresno, CA 93726-0244